

CHESTER COUNTY BRIDGE NO. 225
Hopewell Road over Tweed Creek
Oxford Vicinity
Chester County
Pennsylvania

HAER No. PA-415

HAER
PA
15-OXF.V
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HAER
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HISTORIC AMERICAN ENGINEERING RECORD

CHESTER COUNTY BRIDGE NO. 225

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Location: Hopewell Road over Tweed Creek, Oxford Vicinity, Chester County, Pennsylvania
UTM: 18.413630.4404050
Quad: Kirkwood, PA 1:24,000

Dates of Construction: May 1907-September 1907

Builder: Corcoran Brothers of Chester County, Pennsylvania

Present Owner: Commonwealth of Pennsylvania
Department of Transportation
Harrisburg, PA 17101-1900

Present Use: Vehicular Bridge

Significance: This bridge sits in the heart of the Hopewell Historic District. The district is characterized by nineteenth century residential, agricultural, public, commercial, and industrial buildings clustered along a nineteenth century road network. Chester County Bridge No. 225 sits within this historic transportation network and contributes to the significance of the district. Built in 1907, the crossing was commissioned by the Chester County Commissioners at the insistence of local residents who requested a bridge be erected at the fording where Tweed Creek crossed Hopewell Road. The bridge was one of the first concrete and I-beam structures erected in Chester County during the early twentieth century. Erected by a Chester County-based contractor, the bridge retains a high degree of architectural integrity evident in its fieldstone abutments, wing walls, pier, and reinforced concrete deck.

Project Information: In 1988, Chester County Bridge No. 225 was found to be in deteriorated condition, and it was slated to be removed and replaced on approximately the same alignment with twin reinforced concrete box culverts. The approaches will be realigned, widened and resurfaced to improve sight distance and safety. The roadway profile will be slightly raised east and west of the stream crossing. To mitigate the adverse effect, the State Historic Preservation Officer stipulated a crossing design that blends with the historic environment and HAER documentation of the existing bridge. This documentation fulfills the second stipulation.

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INTRODUCTION

Chester County Bridge No. 225 is located in the village of Hopewell, East Nottingham Township, Chester County, Pennsylvania. The bridge is situated along Hopewell Road (S.R. 3016) in the heart of the Hopewell Historic District (USGS 1976), which was listed in the National Register of Historic Places on February 28, 1991. The Hopewell Historic District is comprised of approximately fifty-five historic resources: thirty-seven contributing resources and eighteen non-contributing resources (Maley 1990:Sec 7, p. 3). The fifty-five buildings, outbuildings, structures, sites, and objects occur primarily along three intersecting roads: the east-west oriented Hopewell Road, the north-south oriented Lower Hopewell Road, and the north-south oriented Roney's Corner Road. Tweed Creek and its tributaries serve as the principal waterways in the district. The topography of the district is characterized as a valley, sloping from both east and west, and coming to its lowest point at the intersection of Hopewell and Lower Hopewell Roads. The district encompasses roughly 55.85 hectares (138 acres) of land in and around the rural village of Hopewell (Maley 1990:Sec 10, p. 5).

The resources within the district are characterized as nineteenth century residential, agricultural, industrial, and institutional buildings interspersed along a nineteenth century road network and railroad remains. The district is both historically and architecturally important as an example of a nineteenth century milling and agricultural community shaped and dominated by an enterprising Scots-Irish, Presbyterian family, the Dickeys. The Dickeys used Hopewell as their base of operations while creating a small empire of industrial and agricultural properties that impacted western Chester County and the surrounding region. The Dickeys left their mark upon the areas of agriculture, dairy production and education in Hopewell. The family employed an innovative watering technique to irrigate upper fields, experimented with a variety of fertilization techniques, engaged in milling, and perfected dairy production by creating a butter-making machine patented in 1853. The family also promoted education through the establishment of the second Hopewell Academy (1841-61) (Maley 1990:Sec 8, p. 6).

Hopewell's story reflects the influence of the Industrial Revolution on the pastoral landscape of southwestern Chester County and the mechanization and commercialization of agriculture in the region as it moved from subsistence to bread-basket status. The rise and fall of the Dickey family's intricate nineteenth century agricultural/industrial empire is evident on Hopewell's cultural landscape today. The historic feeling and association of the thirty-seven contributing resources within the district remains intact. Some of these resources include: the Hopewell Academy, a mill, millworkers' housing, a town store, a schoolhouse/lyceum, a rectory/church, and homes of the Dickey family. Three bridges are also contributing elements to the district. These bridges are Chester County Bridge No. 225 over Tweed Creek, Hopewell Road Bridge over an unnamed tributary of Tweed Creek, and Chester County Bridge No. 273 over Tweed Creek. This report documents the history and significance of Chester County Bridge No. 225.

PHYSICAL DESCRIPTION OF BRIDGE AND SETTING

Chester County Bridge No. 225 is located along Hopewell Road as it winds through the rural Hopewell Historic District in an east/west direction. Chester County Bridge No. 225 is a two-lane, two-span concrete and I-beam vehicular bridge that crosses Tweed Creek roughly 76.2 meters (250 feet) west of the Hopewell Road-Lower Hopewell Road intersection. The bridge measures approximately 16.6 meters (54.5 feet) long and 6.71 meters (22 feet) wide. The main span of the bridge measures roughly 9.1 meters (30 feet) long and the secondary span measures 7.4 meters (24.5 feet) long (Teodecki 1989). The eastern and western approaches to the bridge form a perched alignment along Hopewell Road. The bridge is not wide enough to permit two oversized vehicles on it at the same time. It has a bearing capacity of 11.79 metric tonnes (13 tons) and a 16.09 kmph (10 mph) speed restriction. (Skelly & Loy 1994:5).

The bridge is supported from below by a network of masonry substructures. Two fieldstone abutments hug the eastern and western banks of Tweed Creek. The abutments measure roughly 6.71 meters (22 feet) wide. Fieldstone wing walls are appended to the abutments and occur on all four quadrants of the bridge along the northern and southern edges of Hopewell Road. The northeast wing measures under 15.2 meters (50 feet) long, the southeast wing measures under 21.33 meters (70 feet) long, the northwest wing measures under 7.62 meters (25 feet) long, and the southwest wing measures over 7.62 meters (25 feet) long. Wing walls on the northeast, northwest, and southwest quadrant have been extended with concrete additions. On the southwest quadrant of the bridge, a 7.62 meter (25 foot) long fieldstone retaining wall extends from the edge of the west abutment. Concrete coping occurs along the tops of all four wing walls. The bearing capacity of the abutment/wing wall configuration is reinforced by a fieldstone center pier placed on a concrete footing in the center of Tweed Creek. The pier functions to divide the bridge into two spans of unequal sizes. The stonework of the abutments, wing walls, and center pier consists of rubble masonry laid in a random course pattern.

The masonry substructure supports a concrete and I-beam superstructure. The deck of the bridge is constructed of concrete reinforced with 20.32 cm x 10.16 cm (8" x 4") I-beams. The lower chords and stringers are encased in concrete and span the length of the bridge. The surface of the bridge is sheathed in asphalt. The northern and southern edges of the bridge are flanked by metal railings. On the deck of the bridge, the railings are set upon the reinforced concrete parapet. The railings on the southern parapet are deteriorating and are braced together with modern metal rods. Metal railings are also placed atop fieldstone wing walls on the northeast, northwest, and southwest quadrants. The wing wall on the southeast quadrant contains no metal railing protection because the wall is higher than those on the other quadrants.

A dateblock is mounted at the juncture of the southeast wing wall and the southern parapet of the bridge. The marble block is placed on the northwest corner of the wing wall, facing toward Hopewell Road. The block is inscribed with the following information:

No. 225 1907
County Commissioners
Jesse J. Hickman
William Stevens
Isaac J. Tustin
Clerk-W.E. Pennypacker

This information reveals that Chester County Bridge No. 225 was erected by Chester County in 1907. Detailed information about the history of Hopewell, the local and regional transportation network, and the significance of Chester County Bridge No. 225 within that network is described in the historical overview section below. The history begins with a historical examination of the area surrounding the bridge and ends with a discussion of the significance of the crossing.

LOCAL HISTORICAL BACKGROUND

The area surrounding Chester County Bridge No. 225 straddles the border between East Nottingham and Lower Oxford townships in southwestern Chester County. The dominant geographical features of this rural area are Tweed Creek, an unnamed tributary of Tweed Creek, and the valleys through which these waterways pass. Tweed Creek flows into the impact area from the east, is joined by the tributary, then turns immediately northwestward on its way through Lower Oxford Township toward a confluence with the Octoraro Creek at Pine Grove Dam. On at least one nineteenth century map, the northern portion of Tweed Creek is referred to as "Big Run" (Breou 1883). A detailed look at Chester County Bridge No. 225, and its place in the evolution of Hopewell's public road system, will be provided at the conclusion of this area history.

For three decades following Chester County's establishment by William Penn in 1682, virtually no European settlement occurred in the southwestern corner of the county. Organized settlement of this frontier land was not possible until after May 1702, when Pennsylvania's Commissioners of Property, in response to an appeal from representatives of approximately twenty families wishing to settle in southwestern Chester County, laid out a settlement tract of 7284.37 hectares (18,000 acres) on the east side of Octoraro Creek (Pennsylvania's Proprietors believed all of this land belonged to the Province, but their claim was challenged by representatives of Lord Baltimore; it would eventually be determined that the greater portion of this extensive tract fell within Maryland's borders). Called "Nottingham" after the English town or county of that name, the 18,000 acre tract was divided into thirty-seven parcels averaging just under 202.34 hectares (500 acres) each. The Pennsylvania Proprietors reserved five of these "Nottingham Lotts" for Provincial use, and the remaining thirty-two parcels were sold off singly or in multiples to approximately fifteen purchasers (Futhey and Cope: 1881:195-96).

Virtually all of the new landholders had surnames reflecting English or Scots-Irish heritage (Futhey and Cope 1881:195-96). Many of the families who planted homesteads in Nottingham as its land was further subdivided were Ulster Scots seeking refuge from persecution and economic hardship in their most recent homeland. Successive waves of these immigrants began arriving in the New World in 1717 (Bradley 1990:3). As they purchased land and established rudimentary plantations on the frontier, their presence forced the issue of municipal jurisprudence. There were enough families needing governance in the Pennsylvania portion of Nottingham by 1718 to warrant the organization of the western part of Nottingham as West Nottingham Township. At the same time, the remaining eastern portion was established as East Nottingham Township. East Nottingham then encompassed land that would later be used to form the townships of Londonderry and Elk, as well as the boroughs of Oxford and Hopewell (Godcharles 1933:124).

Like all of Pennsylvania's frontier homesteaders in the mid-1700s, the widely-scattered English and Scots-Irish settlers of East Nottingham Township filled their days with clearing land; husbanding small patches of grain, corn, and vegetables; cultivating orchards; and tending their sheep, pigs, cattle, and chickens. Eventually, some of the more enterprising farmers built gristmills and sawmills along the area's waterways. Other entrepreneurs established smith shops, set up distilleries to convert corn into whiskey, or fired up ovens to produce building bricks. Among the farmers who diversified into milling, brick-making, and carpentry were the descendants of immigrant Samuel Dickey, Sr. (Bradley 1988).

Dickey family tradition holds that Samuel Dickey, Sr. sailed with his wife Jane and infant son Samuel from northern Ireland to America about the year 1730 (Bradley 1990:3). Sometime during the 1730s the Dickeys acquired a homestead in East Nottingham Township, a few kilometers south of the modern Borough of Oxford. During the remainder of his life on this homestead, which he called "Palmyra," Samuel Sr. buried his first wife, married two more times, and fathered three more children. Following his death in 1778, his third wife and the couple's son, John, left Chester County for Pennsylvania's western frontier. The older Dickey children—Samuel Jr., William, and Margaret—remained in the East Nottingham area where they married and raised families. The junior Samuel and his descendants for three generations contributed greatly to the cultural and economic development of the area during the next century (Bradley 1990:4).

Remembered as a "quiet man," Samuel Dickey, Jr. (1730-1794) spent all but the earliest years of his life in East Nottingham. Sometime after his marriage to Mary Jackson of nearby Oxford Township in 1759, Samuel Jr. took over his father's "Palmyra" homestead, expanding it to 78.91 hectares (195 acres) and building an addition to the farmhouse. Like his more enterprising neighbors, Samuel branched out into non-agricultural business pursuits. He built an oven for baking bricks and also opened a carpenter's shop. Until his death in 1794, he was an active member of the Presbyterian congregation based in Oxford village (Bradley 1990:5-6).

Samuel Dickey, Jr. and Mary raised eight children, including four sons: John (born in 1767), Samuel III (1769), Ebenezer (1771), and David (1776) (Bradley 1990:2). The scholarly Ebenezer distinguished himself from his brothers by traveling for several years as a missionary, then accepting the pastorate of Oxford's Presbyterian congregation in 1796 (Bradley 1990:14-15). His brothers were equally ardent Presbyterians, but they devoted most of their careers to entrepreneurial ventures. Samuel III and David each inherited half of the Palmyra homestead following their father's death. While David used his inherited wealth and business acumen to string together a series of successful real estate deals at the turn of the nineteenth century, Samuel III took advantage of the local building boom to expand his brick-making business. With money available for investment, he set up a small, horse-and-treadmill-driven cotton spinning mill at Palmyra in 1809 (Bradley 1990:7-8).

As of 1809, water-powered machinery had been devised to spin cotton into yarn, but yarn was still woven into cloth on hand looms operated by home-based weavers. That changed around 1810, as large water-powered looms were developed and deployed in mills, allowing the entire process of transforming raw cotton into finished bolts of cloth to be accomplished in one mechanized factory. Samuel III and his older brother John took note of this emerging technology and decided to implement it in their home community. Around 1812, Samuel established a large water-powered cotton mill along Tweed Creek, on the border of East Nottingham and Lower Oxford townships, approximately three kilometers (1.86 miles) northwest of his Palmyra mill. His brother David had purchased land in that vicinity a few years earlier and was already using Tweed Creek to power a gristmill and a sawmill there. David joined Samuel in founding what became known as "the Hopewell Cotton Works," and shortly thereafter Ebenezer entered the partnership, which was titled "S., E., & D. Dickey Company." Eldest brother John started up his own water-powered cotton mill at this time, farther north in Lower Oxford Township (Bradley 1990:7-8).

The Hopewell Cotton Works was housed in a three-story brick building measuring 12.2 x 10.1 meters (40 x 33 feet). Power was provided by a fifteen foot overshot water wheel driven by water flowing through the race David Dickey had built for his gristmill and sawmill (Bradley 1990:8). A larger sizing and dyeing house was erected beside the mill (both the house and the mill would be burned or torn down in the early twentieth century) (Maley 1990:Sec. 7, p. 6). By the mid-1820s, the mill was turning out nearly one hundred varieties of cloth. Much of the fabric produced was a simple cotton weave known as "tabby," but the Hopewell looms were also capable of producing cotton and wool blends. Patterns leaned heavily toward stripes and checkerboard designs. A specialty of the mill was a blue-and-white checked fabric particularly favored in children's school clothes (Bradley 1990:8).

Samuel, David, and Ebenezer Dickey planted seeds for a village around their cotton works by building homes for themselves on ridges overlooking Tweed Creek. Samuel's first home in Hopewell was a two-and-a-half-story stone building which stands today northeast of the Lower

Hopewell-Calvery Road intersection (Maley 1990:Sec. 7, p. 11). In 1832, he constructed a larger home one kilometer (0.62 miles) south of the earlier residence, on a crest overlooking the cotton mill. David built an imposing three-story Georgian brick mansion at the eastern end of the valley, northeast of the present-day intersection of Roney's Corner and Hopewell Roads, probably before 1820 (Maley 1990:Sec. 7, p. 10). Ebenezer erected a handsome two-and-a-half-story, ten-room brick residence on a 52.6 hectares (130 acre) farm northeast of the cotton mill (Bradley 1990:54).

On land adjacent to the mill, the brothers constructed rental cottages for their employees, who numbered thirty-eight by 1820. Although the mill provided some work for unskilled women and children, most of the employees were skilled men who had recently brought their knowledge of weaving machinery over to America from England, Scotland, and Ireland (Bradley 1990:10). The Dickeys also erected non-residential buildings in their growing village. To supply their workers' need for domestic goods, the Dickeys established a general store in a large three-and-a-half-story building on the northeast corner of the Lower Hopewell-Hopewell Road intersection (Maley 1990:Sec. 7, p. 9). This store was granted a post office under the name "Hopewell" in 1830 (Bradley 1990:52). A few years after David sold his share of the Hopewell business to Samuel and Ebenezer in 1824, Samuel built a second cotton mill along Lower Hopewell Road, near his first residence (Bradley 1990:12). This four-story brick-and-stone factory became known as the "lower mill," as it lay downstream from the first mill, which was thereafter known as the "upper mill" (Maley 1990:Sec. 7, p. 14).

Following David Dickey's death at age fifty-five in 1831, Samuel purchased the Mount Vernon cotton manufacturing complex David had established along the Octoraro Creek over the course of the prior two decades. Additional control of the Hopewell enterprises devolved to Samuel after Ebenezer's death that same year. Samuel thus had extensive holdings to pass on to his heirs when he died in 1835. The primary beneficiaries of this legacy were Samuel's three sons: Samuel J., Ebenezer J., and David J. Under the corporate title "S. J. Dickey and Brother," Samuel J. and Ebenezer J. conducted the Hopewell enterprises, which included the two cotton mills, a gristmill, a sawmill, blacksmith and wheelwright shops, a machine shop, and the general store. Indeed, prior to the Civil War all of the businesses in Hopewell were owned by members of the Dickey family. During these years S. J. and E. J. entered into a partnership with their second cousin John Dickey Ross to oversee the multifaceted Mount Vernon operations formerly owned by their uncle David.

The Dickey holdings in Mount Vernon included two papers mills, a cotton factory, a blacksmith shop, a store, and seven farms. In addition to operating these enterprises, they set about buying up farms in Hopewell, East Nottingham, Lower Oxford, and even across the Octoraro Creek in Lancaster County. Their brother David joined both partnerships in 1851, as Hopewell and Mount Vernon became even more complex family affairs (Bradley 1990:54).

Hopewell became something of an academic locus as well as a mercantile settlement beginning in 1834 when Thompson Hudson opened a private school on his farm along Hopewell Road, at the western end of the village (Bradley 1988). Five years after Hudson's academy closed in 1841, Jesse C. Dickey, a young man who had come to teach at this academy and ended up marrying David Dickey's daughter (he was probably not related to the Hopewell Dickeys), purchased his in-law's splendid home on the east side of the village, enlarged it, and established in it a private boys' boarding and day school known as the Hopewell Academy. Between 1846 and its close on the eve of the Civil War in 1861, the Hopewell Academy provided boys primarily from Chester County and southeastern Pennsylvania with "a sound education equivalent to the first two years of college" (Bradley 1990:62). When this institution closed, Hopewell was left with only a public school, a small stone structure built in the Y formed by the confluence of Tweed Creek and its tributary. In 1888, this building would be replaced by a larger, two-story, frame schoolhouse, which today serves as a private residence (Maley 1990:Sec. 8, p. 6).

With Hopewell lying partly in East Nottingham Township and partly in Lower Oxford, the villagers doubtlessly had their share of frustrations in needing to deal with two sets of municipal officials. After a failed attempt by some of Hopewell's residents in 1848 to have the County shift the township line southward to include the central portion of the village in Lower Oxford Township, they mounted an effort to have the village chartered as a Borough. Their efforts were rewarded when Hopewell was granted a charter in 1853. Its boundaries extended well beyond the Dickey manufacturing enterprises to enclose nearly 5.17 square kilometers (two square miles) of farmland (an early depiction of the new borough's boundaries appears on a *Map of Chester County*, published by T. J. Kennedy in 1860). In the first borough elections, held the following year, most of the offices were filled with members of the Dickey family and their farming neighbors (Bradley 1990:55). Hopewell's general store served as an unofficial town hall for a number of years, then borough business was transacted in the schoolhouse built in 1888 (Maley 1990:Sec. 7, p. 8).

About this time, the Dickeys abandoned the manufacture of cloth at their Hopewell and Mount Vernon mills in favor of cotton twine production. Their newly-outfitted mills provided work for 66 employees by 1860. In the agricultural component of the Dickey empire—spread across fifteen family-owned farms on more than 607.03 hectares (1,500 acres)—the Dickeys had no peers in southern Chester County. Using progressive techniques, their farmers regularly produced crops with well-above-average yields. A natural outgrowth of this farm production was a large dairy opened by the Dickeys on E. J. Dickey's farm in Hopewell, and two other dairies in Mount Vernon (Bradley 1990:56-57).

Given the breadth and diversity of the Dickeys' enterprises, their empire appeared secure for many years to come. It came as a shock to many observers, then, when it collapsed like a

house of cards in the winter of 1861-62. A biographer of the Dickey family recently attributed the crash to the following factors:

The Dickeys were too ambitious when they purchased farm after farm in the process of accumulating their 1,500 acres [607.03 hectares]. They borrowed heavily to buy these properties, piling up mortgages that became increasingly difficult to repay. Following David's death in 1856, the older brothers were forced to repurchase his share of the partnership; this was certainly not a circumstance they contemplated when bringing him into the firm a few years previously. S. J. and E. J. also bought land David owned independently of the family venture, imposing an additional burden on them. Managing fifteen farms took great effort, as did coping with the increasing shortage of laborers and the rising cost of wages.

Throughout the 1850s America's textile industry went through a slump caused by overproduction and decreasing earnings. The Panic of 1857 hurt the industry, as it did many others, and had long-term effects. . . . [And finally] the coming of the Civil War in the spring of 1861 shut off the supply of cotton to northern mills (Bradley 1990:57, 59).

On January 27, 1862, the Dickey partners placed all of their assets—including cotton factories, paper mills, stores, homes, tenant cottages, and farms—into the hands of two court-appointed trustees who sold the properties in order to repay debts in excess of \$150,000.00. Hopewell Borough was never quite the same after this disintegration, despite the fact that some of the more significant Dickey properties, such as the main dairy farm, the Hopewell cotton mills, and its general store, were purchased by family members and made viable once again (Bradley 1990:57, 59). Under Samuel J. Dickey's oldest son, William, the Hopewell Cotton Works were revived to the point where a local paper could report in 1869 that "Hopewell is now almost as active and bustling as it used to be." The rebound was short-lived, however. By 1870 all of the Dickeys were gone from Hopewell, either through death or relocation (primarily to neighboring Oxford). Hopewell's population, which had amounted to 272 souls in 1860, dropped by twenty percent during the 1870s (Bradley 1990:66-67).

A turnaround seemed possible in the early 1870s when a railroad was built through the Borough. Members of the Dickey family in Hopewell and Oxford had been part of a movement to bring the railroad revolution to southwestern Chester County even before the Civil War broke out. In the years following the war, they and their progressive neighbors redoubled their efforts, and were rewarded in March 24, 1868 when a Special Act of Pennsylvania's General Assembly provided for the incorporation of the Peach Bottom Railway Company, organized as part of a plan to construct a narrow gauge (and thus less expensive) railway from the coal fields of the Broad Top region of Huntingdon, Bedford, and Fulton counties, through York to Phila-

delphia. The railroad was to cross the Susquehanna River at Peach Bottom, just north of the Mason-Dixon Line, and hence the enterprise's name. There were to be three divisions of this line, with the Eastern Division crossing Chester and Philadelphia counties (Saylor 1964:236-237). Construction commenced on the twenty-mile stretch of track between Oxford and the east bank of the Susquehanna in August 1872, and fourteen months later, with most of the rest of the railroad far from completed, the first regularly scheduled trains began passing through Hopewell. A little depot was erected beside the public schoolhouse standing in the Y formed by the confluence of Tweed Creek and its tributary. This was one of thirteen stations along the opened portion of the route, though would-be passengers could flag the train down wherever they happened to meet it. Three daily trains in each direction carried passengers, mail, farm produce, and manufactured goods across the countryside in rolling stock reduced in length and weight proportional to the narrow gauge (Bradley 1990:44).

The Middle Division of the Peach Bottom Railroad, extending between York and Peach Bottom, was completed about 1878, but no bridge was ever built to carry the road across the river to a meeting with the Eastern Division in Chester County, nor was any of the Western Division ever constructed. The isolated Eastern Division was eventually reorganized as the Lancaster, Oxford & Southern Railway (L, O & S; sometimes referred to as "Little, Old & Slow"). This was only one of several reorganizations involving the former Peach Bottom Railroad during its forty-six years of service in Hopewell. The proliferation of private vehicles and improvement of public roadways in the first decades of the twentieth century contributed greatly to the abandonment of "the Peachy" between Oxford and the Susquehanna in 1919 (Saylor 1964:236-237; Bradley 1990:68).

The demise of the Peach Bottom Railroad was mirrored by the general decline of Hopewell's viability as a borough. By the turn of the century, the depleted municipality had become something of a laughingstock. In an 1897 article in *The Philadelphia Inquirer*, under the heading "A Farce Comedy in Borough Legislation," Hopewell was described as "a freak in the way of a municipality . . . a collection of a dozen or more ramshackle buildings, the remains of what was once a flourishing town, but which is now nothing more than the abode of some sixty-nine souls, with forty-five voters, who go through the mummary every year at a comparatively enormous expense of electing some thirty or more officers" (*The Philadelphia Inquirer* 1897). A group of Hopewell's citizens had already petitioned the Chester County Court for the dissolution of the borough, but staunch defenders of the status quo were putting up stiff opposition. The battle for Hopewell's municipal status continued for nearly two decades, until the anti-dissolution faction lost their final appeal in Superior Court, and Hopewell's borough charter was revoked in 1914.

Today there are few signs that Hopewell was once a bustling borough. Gone is the upper mill, the adjacent sizing and dyeing house, most of the workers' cottages, the mill race, the railroad, the railroad bridges, the depot, and other railroad-related structures. The 1888 school-

house/town hall and the former Hopewell Academy serve as private residences. The few buildings which were once hives of commerce are now as quiet as the surrounding countryside.

THE EVOLUTION OF HOPEWELL'S PUBLIC ROAD SYSTEM, WITH PARTICULAR ATTENTION TO CHESTER COUNTY BRIDGE NO. 225

An examination of historic Chester County maps, combined with an investigation of State and County highway and bridge records, reveals an evolving configuration of public travel routes into and through the Hopewell area over the course of the past two centuries.

Although it appears now to be the principal traffic route through the area, Hopewell Road was probably not the first public thoroughfare to be officially laid out through the valley of Tweed Creek. What is today known as "Lower Oxford Road" was apparently laid out in the last months of 1816, several years after Samuel Dickey III opened his Hopewell Cotton Works. On November 4, 1816, Dickey and James Ramsey, who operated a tavern in the vicinity of present-day Chrome in East Nottingham Township, submitted a petition to the Chester County Court of Quarter Sessions for a road "beginning at or near the Grist Mill of Doctor David Thomas on the road leading from Oxford to Webbs Forge [likely present-day Street Road], and running thence on the most suitable ground near the dwelling house of Samuel Dickey until it reach the great road from Webbs Forge on Octoraro to Ramseys Tavern in East Nottingham" (apparently Christine Road, Route 272) (Chester County 1816:vol. 32, p. 223). At the time, Dickey was either living on his grandfather's "Palmyra" homestead south of Oxford village, or he had recently moved to a new residence near the present-day intersection of Lower Hopewell and Calvery Roads (Bradley 1990:7-8, 12). What he and Ramsey were requesting, in essence, was the laying out of a public road leading from the vicinity of present-day Tweedale, southward through the valley of Tweed Creek, past Dickey's newly-opened Hopewell cotton mill, then swinging eastward in an arc through East Nottingham Township to the vicinity of Dickey's Palmyra residence, then turning southwestward toward an intersection with the highway leading to Ramsey's tavern.

The road requested by Dickey and Ramsey was "Viewed, laid out, and Return[ed] for public use" by a jury of six men, according to a document filed with the Court on December 3, 1816 (Chester County 1816:vol. 32, p. 225). A draft accompanying this document shows a road approximately 4.2 kilometers (2.6 miles) in length, the northern portion of which appears to roughly correspond to present-day Lower Hopewell Road (though part of this road would be realigned in 1869, as will be discussed in greater detail below). Less clear is the course the road took southward out of Hopewell. It appears to correspond in some ways to a road extending southward from the present-day intersection of Hopewell and Roney's Corner Road. By 1847, this road would pass the home, gristmill, and dam of Thomas Strawbridge Dickey, just south of Hopewell Road (Maley 1990:Sec. 8, p. 9-10). The road has since been severed and rendered useless to the public by the construction of U.S. Route 1.

No record was found to document and date the laying out of Hopewell's only modern through-road, now known as "Hopewell Road" (S.R. 3016), and formerly designated L.R. 15005 and "the State road." No corresponding highway is denoted on William Scull's 1770 map of Pennsylvania, Reading Howell's 1792 map of Pennsylvania, or James Hindman's 1822 map of Chester County (other ancient arteries in western Chester County, including "the Limestone Road" [Route 10] and the precursors of present-day Routes 272 and 472, *are* indicated on the latter two maps) (Scull 1770; Howell 1792; Hindman 1822). Hopewell Road presumably did not exist prior to the laying out of "Lower Hopewell Road" in 1816, as it would certainly have been mentioned as an intersected road in the accompanying petition, and drawn as such on the accompanying draft.

Inasmuch as Lower Hopewell Road provided access to Dickey's mill from the north and southeast as early as 1816, there was probably no pressing need for another public road leading to Hopewell in the late 1810s and early 1820s. The earliest road petition on file at the Chester County Archives which refers to what became known as Hopewell Road is dated February 8, 1833. In this document (discussed more fully below), Hopewell Road is called "the State Road," a designation used consistently for the road in petitions at least through 1907 (Chester County 1833:vol. 51, p. 3). An examination of two primary sources of information relating to Pennsylvania State roads—the Pennsylvania Archives files labeled *State Road and Turnpike Maps, 1706-1873 (Eastern District)* and *State Road and Turnpike Reviews 1805-1930 (Eastern District)*—shed no light on the origination of Hopewell Road. Based on the available information, it is only possible to state that an east-west oriented "State Road" was probably opened through Hopewell sometime between late 1816 (when "Lower Hopewell Road" was laid out) and early 1833.

In February 1833, inhabitants of East Nottingham Township petitioned the County Court for the laying out of a road "to lead from a point on the State Road near Hopewell to a point on the Road leading from Oxford village to West Nottingham [Presbyterian] Church." A jury laid out this road and returned it to the Court in a document dated March 27, 1833 (Chester County 1833:vol. 51, p. 2). An accompanying draft showed a road extending approximately 1.27 kilometers (0.79 miles) southward from the "State Road" to an intersection with the road now known as Union Square Road. This "Road to Nottingham," as it came to be called, appears on a map of Chester County townships published by Painter & Bowen in 1847. It leads off of Hopewell Road approximately one kilometer (0.6 miles) west of the site of the bridge and proceeds southward to Nottingham along a ridge overlooking a tributary of Tweed Creek. This road was vacated for public use in the 1860s (see note below), and its northern portion today serves as a private driveway.

Also denoted on the 1847 map is the route presently known as Roney's Corner Road. Information regarding the origination of this road was not discovered in the course of this investigation. Based on road records and the 1847 map, it appears that Hopewell's public road system

as of 1847 consisted of Lower Hopewell Road (though in a slightly different alignment than its present form), Hopewell Road ("the State Road"), the "Road to Nottingham," Roney's Corner Road, and an unnamed southern extension of Roney's Corner Road (probably a continuation of the 1816 Lower Hopewell Road). Anyone passing through Hopewell in 1847 via "the State Road" had to ford Tweed Creek twice, and its tributary once.

Several changes were made to this public road network in the latter 1860s. On December 16, 1867, a jury reported to the Court that a new road had been laid out to supersede the ca. 1833 "Road to Nottingham" (Chester County 1867:vol. 99, pp. 62-65). The new road, which was 2.5 kilometers (1.56 miles) in length, began "at a post in the State Road in the Borough of Hopewell near the School House," crossed the tributary of Tweed Creek approximately one-half kilometer upstream from Hopewell Road, and proceeded southward along the valley of the tributary to an intersection with present-day Union Square Road and, farther south, Baltimore Pike. The road passed through the properties of at least seven landholders, some of whom complained of inconveniences or damages entailed by the new route. Because of these complications, several adjustments had to be made to the route before the road could be confirmed, which occurred in the summer of 1869. At some point a bridge was built where this new "Road to Nottingham" crossed the tributary of Tweed Creek. In 1990, an observer noted that the "stone abutments [of this bridge] remain in place, as well as portions of the bottom chords on either side" (Maley 1990:Sec. 7, p. 6).

On June 16, 1869, Hopewell Burgess John L. Loy submitted a petition to the Chester County Court maintaining that the "public road [Lower Hopewell Road] Beginning [*sic*] in the Boro of Hopewell near Dickey's Store and leading [northward] to Twaddle's tavern in Lower Oxford township, laid out by order of this Court and confirmed more than twenty years ago, has become inconvenient in its present location and that a part of said road in Hopewell Boro would better accommodate the public travel by being changed so as to begin at a point near Dickey's Store and to end in said road where the same crosses the Factory race a distance of 3/8 of a mile..." (Chester County 1869:vol. 98, p. 194). In accordance with this request, the Court confirmed on August 9 of that year the realignment of the southernmost 609.6 meters (2,000 feet) of Lower Hopewell Road. This realignment is indicated graphically on a Plan View of Lower Hopewell Public Road System ca. 1869-1872.

On August 13, 1869, the court confirmed the realignment of a portion of the unnamed road extending southward from the intersection of Hopewell and Roney's Corner Roads. The old roadbed apparently passed too closely to the western bank of Showalter's Mill dam. A new roadbed was constructed approximately 24.38 meters (80 feet) further to the west. This realignment, along with the recent realignment of Lower Hopewell Road and the opening of a new "Road to Nottingham," are reflected on a Plan View of Lower Hopewell Public Road System ca. 1869-1872.

A new option for travel to and through Hopewell was made possible by the opening of the Peach Bottom Railway through the village in November 1873. The line approached Hopewell from the northeast, then turned westward to follow the northern bank of Tweed Creek while still east of Roney's Corner Road. Near the present-day intersection of Hopewell and Roney's Corner Road, the line crossed the creek on what must have been a newly-built bridge, then ran along the southern side of the creek for approximately 914.4 meters (3,000 feet) before turning northwestward to first cross Hopewell Road, then the tributary of Tweed Creek by a second newly-built bridge. According to an owner of the schoolhouse property, remnants of the abutments of this second bridge are still discernible in this property's back yard (William Teodecki, personal communication, October 1996). A Phase I Archaeological Survey conducted by Cultural Heritage Research Services, Inc. indicated the presence of two railroad bridge abutments on the southwest side of the intersection of Hopewell and Roney's Corner Roads (Harral and Basalik 1995:23). The CHRS survey report noted that "the geomorphological study stated that the creek had been straightened and re-routed" at this location. "A local informant said Tweed Creek ran much closer than its present location along the section of Hopewell Road west of the bridge. This is supported by the location of the two Peach Bottom Railroad Bridge abutments presently north of the creek. The placement of the abutments suggest that the creek flowed between them [at one time]" (Harral and Basalik 1995:23). With the construction of this bridge and the bridge over the Tweed Creek tributary, pedestrians had a means of crossing Hopewell's two waterways without having to resort to fords.

As of 1906, vehicular traffic passing through Hopewell from east to west using only Hopewell Road still had to ford Tweed Creek twice and its tributary once. Travelers could make a detour around the ford at the tributary by using the "Road to Nottingham" and its bridge just a quarter-kilometer away, but of the three fords along Hopewell Road, the ford at the tributary was by far the easiest to negotiate. Maps of Hopewell published in 1883 and 1896 suggest that Hopewell Road actually ceased functioning as a through-road for a time (Breou 1883; Noll 1896). On these maps, the "Road to Nottingham" is depicted as a southern continuation of Hopewell Road on the east side of the tributary, and Lower Hopewell Road is shown intersecting with Hopewell Road on the west side of the tributary, rather than the east side. It is unclear whether these depictions are the result of inexact mapping, or whether they accurately reflect travel patterns adapted to take advantage of the railroad bridge and the "Road to Nottingham" bridge over the tributary.

In the early years of the twentieth century, the advent and increased use of automobiles and ponderous "steam traction engines" (farm tractors) on Chester County's roads forced the issue of better road surfaces and sturdier bridges on the County's Commissioners. An article published in Oxford's *Daily Local News* in 1907 summarized one Commissioner's appraisal of the issue:

Stone Bridges Best.

County Commissioner Henry Cope, who was here yesterday, says he has been inspecting several bridges in the lower end of Chester county during the past few weeks, and he finds that some of the wooden structures need attention. He favors stone and concrete bridges, and thinks they should be built when any new structure is to be erected by the county. There are many more persons of the same opinion, who have, by observation, noticed that stone bridges require much less repairing than either iron or wooden structures, and will last many years longer.

There have been several iron bridges erected in Chester county during the past twenty-five years and they need repainting, repairing or entire renewal, while such structures as the big stone bridges at Cope's Bridge, Mortonville and other places have stood for nearly three quarters of a century, solid and safe.

"There has never been any suspicion in the mind of a county official, or the owners of traction engines," said an owner of one of the heavy machines, "that the Mortonville bridge would not bear the weight of the engine and all that it could draw after it."

That is the story in a nutshell. As new bridges will be needed at different points during the next few years, it is probable that the policy of erecting stone structures will be adopted (*Daily Local News* 5 December 1907).

CHESTER COUNTY BRIDGE NO. 225

It was during this era of road improvements that residents of Hopewell began agitating for a bridge to carry Hopewell Road across Tweed Creek near the Hopewell railroad depot. Many of the developments leading up to the construction of this bridge, as well as its actual construction, are documented in Chester County bridge records and a series of reports published in *The Daily Local News* beginning in the spring of 1906. A jury report to the Chester County Court of Quarter Sessions, dated April 27 of that year, indicates that the bridge-building movement was already underway:

The undersigned viewers [have been] appointed by said court to view and, if they see occasion, to lay out a county bridge over Tweeds [*sic*] creek in the Borough of Hopewell in said county where said creek crosses the public road known as the "State road" leading from the Borough of Oxford to the village of Glenroy. . . .

[The viewers] do agree that there is occasion for a county bridge at said fording and are of the opinion that the erecting of said bridge will require more expenses than it is reasonable the said Borough of Hopewell should bear, and that the County should erect said bridge. They furthermore report that no change will be required in the road way in erecting said bridge and that no damage will be done thereby to adjacent land owners. [Signed:] Augustus Brosius, Charles Wilson and William P. Watson (Chester County 1906).

A *Daily Local News* article published the following day (April 28) reported that "Messrs. Augustus Brosius, Charles Wilson and William P. Watson, of Avondale, were in Oxford yesterday and drove out to Hopewell to view the site of the new bridge which is to be built across the run in that village. They were accompanied by the County Commissioners, Messrs. [William] Stephens, [I. J.] Tustin and [Jesse J.] Hickman."

The Hopewell contingent's efforts were rewarded within nine months of this meeting. According to a note in the *Daily Local News* datelined February 23, 1907, "Yesterday County Commissioner Jesse J. Hickman and County Surveyor N[athan] R. Rambo went to Hopewell Borough for the purpose of viewing the site of a proposed county bridge over Big Run [*sic*], in that Borough. Mr. Hickman indicated to the surveyor where the new bridge was to be located and measurements will be made by the latter and plans drawn and specifications made so bids can be asked for. This new structure is to be of a different kind from any other county bridge. It will be constructed of iron and granolithic entirely, on the pattern now coming into use in many places. The plans will be ready shortly" (*Daily Local News* 23 February 1907).

Concrete-and-I-beam bridges were new not only to Chester County, but to most counties in Pennsylvania. A Montgomery County newspaper reported in 1902 that the first all-concrete bridge in the State had been built near Vernfield, Montgomery County in 1900. "A similar one, although more ornamental, is being built at Elkin's Station," the report continued. "These bridges are just as substantial as the best constructed stone arch bridges and cost considerable less, but a trifle more than iron bridges. This [Montgomery County] bridge was built as an experiment, and the commissioners are so pleased that concrete bridges may be adopted in this county in the future" (Ruth 1991:21).

On April 17, 1907, the Chester County Commissioners authorized the construction of the Hopewell bridge, along with two other bridges (one at Cedar Hollow, on Valley Creek, Tredyffrin Township, and the other at Buffington's Ford, Uwchlan Township). *The Daily Local News* reported the following day that "the Hopewell bridge will be of iron and the others of stone. There is in the Board a sentiment in favor of stone arch bridges, which will last forever, and require no paint, but it was thought a difficult matter to erect such a bridge in Hopewell, and on this account iron was chosen as the material" (*Daily Local News* 18 April 1907). It is unclear why it would have been "a difficult matter" to build a stone arch bridge in Hopewell.

Within a matter of days, an invitation for "Sealed Proposals" was advertised, and by May 17 the contract for the Hopewell bridge had been awarded to Corcoran Brothers, the lowest of several bidders. A *Daily Local News* article bearing that date noted that "Corcoran Brothers will erect an iron bridge with concrete floor at Hopewell for \$2,135. This firm has erected several reinforced concrete bridges and they are believed to be of the most durable kind" (*Daily Local News* 17 May 1907).

Construction of the bridge was completed in August of 1907. *The Daily Local News* reported on August 6 that "two county bridges, one at Hopewell and the other in Uwchlan, are about completed, and at the next term of Court a petition will be presented asking that the juries which recommended the building of the bridges be directed to view and approve them, that they may be accepted by the county and used by the public" (*Daily Local News* 6 August 1907). On September 3, the jury of Augustus Brosius, Charles Y. Wilson, and Wilmer P. Watson, in the company of County Commissioner Henry Cope, Surveyor Nathan R. Rambo, and others, inspected the completed structure. Later that day they drew up and signed an "Order to Inspect Bridge over Tweed Creek," which was immediately confirmed by the Court. The jury members noted the following in their report:

...the bridge had been constructed according to plans and specifications except that the wing wall on the north side, specified to be 2½ feet in width [76.2 cms], was 2½ feet at the base, and tapered to 20 inches [50.8 cms] at the top; that said change was compensated for by additional wall at other points. We do therefore approve said bridge. In connection with said approval, but without intending to modify the same, and only for the purpose of suggesting other work that might be done to benefit said bridge, we recommend that the borough council at once fill in the approaches to said bridge and so prevent water running around the wing walls (Chester County 1907).

A few months after the inspection, the Hopewell bridge was given the number 225 by the County, as it represented the 225th bridge in Chester County over which County officials had supervision (*Daily Local News* 11 November 1907).

REPAIR AND MAINTENANCE HISTORY

A County engineer inspecting the bridge for the first time on June 15, 1920 found "the concrete badly spalled under slab, steel rusty, channel full of young willow trees, concrete apron badly disintegrated, pipe rail insufficient" (Chester County 1927:25-26). By November 17, 1927, the Chester County Engineer's Report noted that the bridge had been inspected nine times, its "masonry has been pointed, beams painted, slab plastered, channel cleaned, additional line of pipe added to rail, railing painted. Under an agreement with the supervisors [*sic*], the

road was raised, new railing placed on the approaches, and an additional length of wall built on three corners, the county and township sharing the cost" (Chester County 1927:25-26).

County Bridge 225 was one of several hundred Chester County bridges listed in a 1936 County Engineer's report as "Maintained by the County and to be Taken Over by the State on January 1, 1936." Of the bridge itself, the report noted that its "railing needed paint and concrete was rotten. In 1934 the railing was crushed by a falling tree. Railing has been repaired, but nothing else done" (Chester County n.d.).

Currently, the bridge is in deteriorating condition. The concrete deck is in poor condition, is experiencing break-up and has a hole in it. The superstructure is in poor condition with severe rusting of I-beams. The substructure is missing stones and mortar and the wing walls are tilting outward. The undermining at the pier is deteriorating and debris is clogging the far span, rip-rap and channel lining.

SUMMARY

When it was first erected in 1907, the reinforced concrete Chester County Bridge No. 225 represented state of the art technology in bridge building. Although concrete had been used for building by ancient civilizations, the emergence of concrete as a popular building material in the United States did not occur until the late nineteenth and early twentieth century, approximately simultaneous with that of steel. By 1891, the composite use of concrete and steel was introduced into building technology. Early concrete bridge development included experimentation with different forms of steel reinforcing. In 1894, Austrian engineer Joseph Melan patented a scheme for arched I-beam reinforcement in the United States. Beam reinforcement was soon recognized as requiring an inordinate amount of steel, and bar reinforcement began to be explored as a more efficient use of the material (P.A.C. Spero 1991:88).

Chester County Bridge No. 225 was erected during this era of experimentation when bridge builders were exploring the properties of concrete reinforced with steel beams and steel rods. Although steel rods began to replace steel beams as the favored reinforcing agent, steel beams continued to be used in concrete bridge construction well into the twentieth century. At the turn of the twentieth century, prominent American bridge engineer Irwin Thacher proclaimed that "[steel reinforced concrete] bridges are more beautiful and graceful in design, architectural ornamentation can be applied as sparingly or as lavishly as desired; they have vastly greater durability, and generally greater ultimate economy;" (P.A.C. Spero & Co. 1991:89). Chester County Bridge No. 225 represents the attempt of local builders and engineers to adopt the latest bridge building technology in Hopewell. Following its construction in 1907, many other reinforced concrete bridges were built throughout Chester County and the surrounding region. Chester

County Bridge No. 225 is a good example of an encased I-beam bridge. The bridge does not possess any unusual characteristics (David Mengel, personal communication, December 10, 1996). Despite its early date, Chester County Bridge No. 225 is illustrative of its type.

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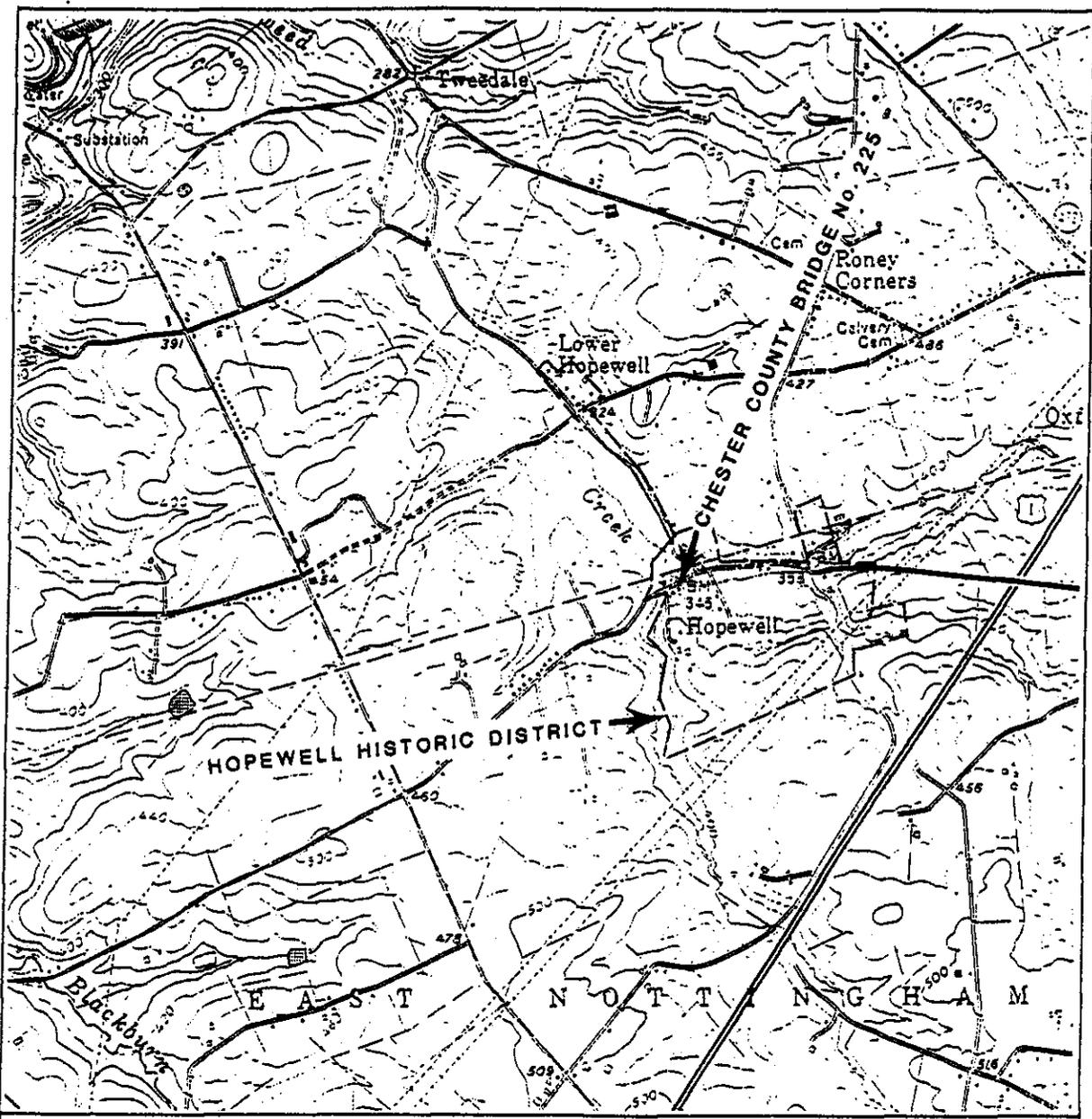
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St. Davids, PA 19087

Pennsylvania State Archives
P.O. Box 1026
Harrisburg, PA 17108-1026



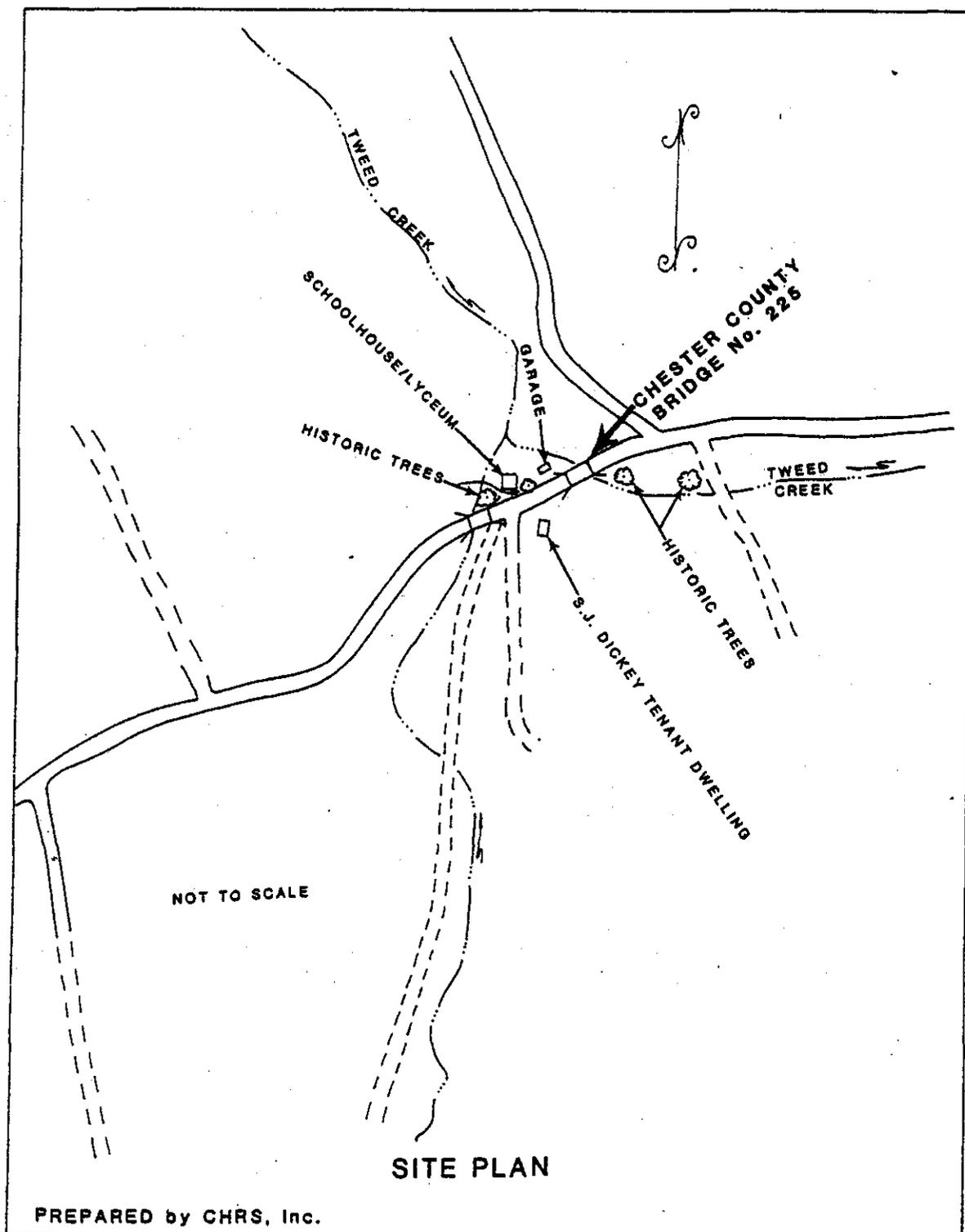
BRIDGE LOCATION MAP

0 609.6 meters
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----- NATIONAL REGISTER BOUNDARY

SOURCE: USGS, 1976
KIRKWOOD, PA.

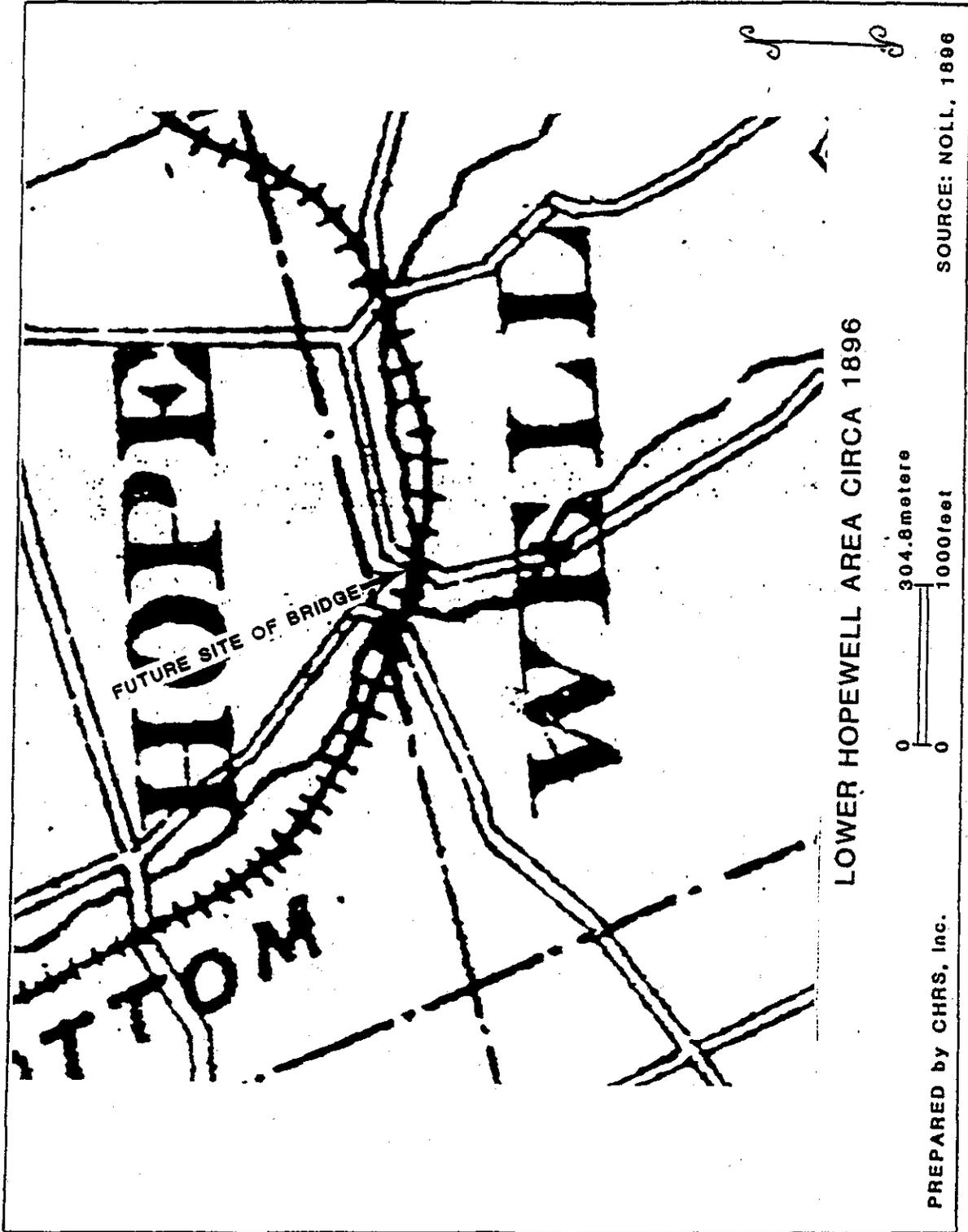
PREPARED by CHRIS, Inc.



NOT TO SCALE

SITE PLAN

PREPARED by CHRS, Inc.

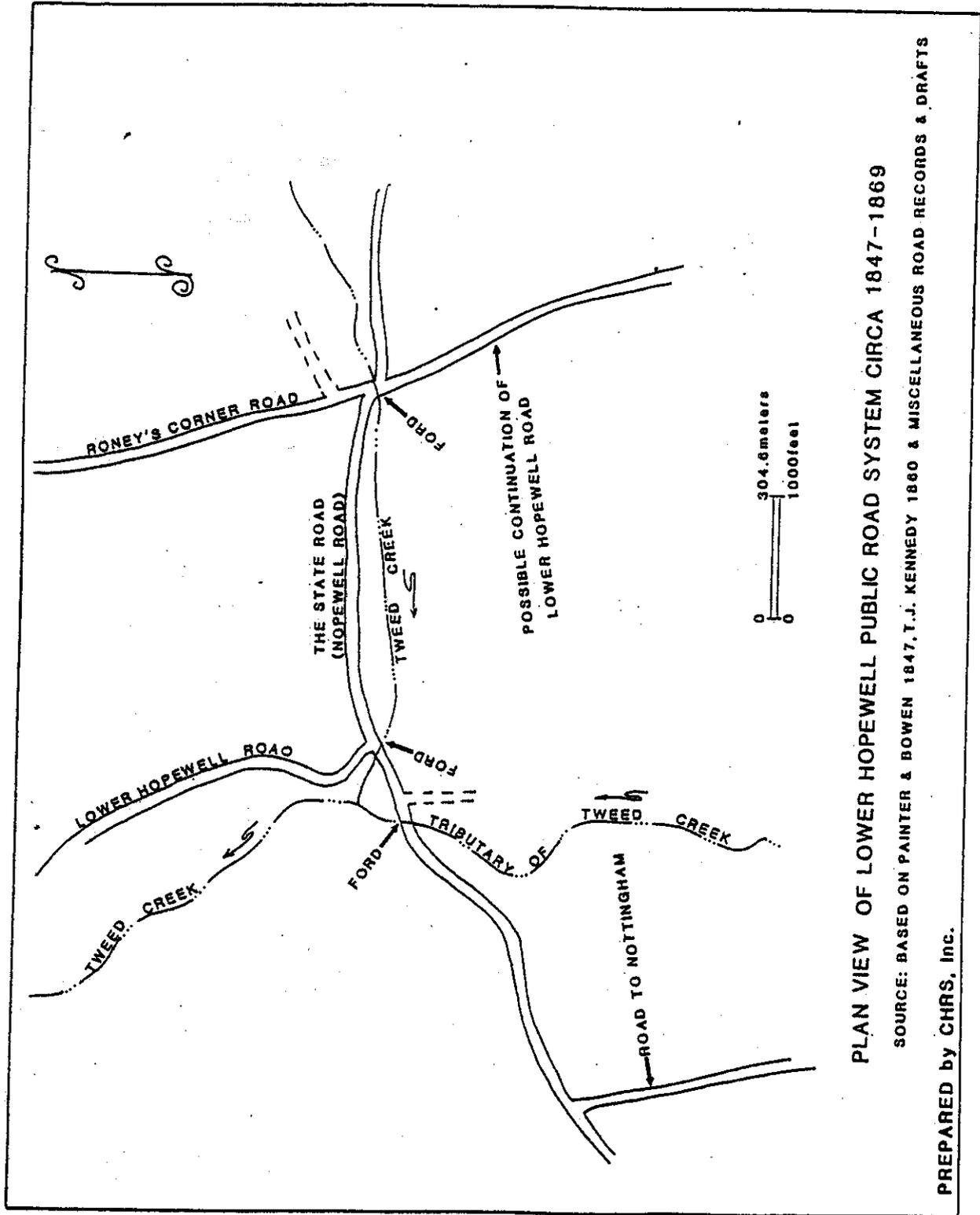


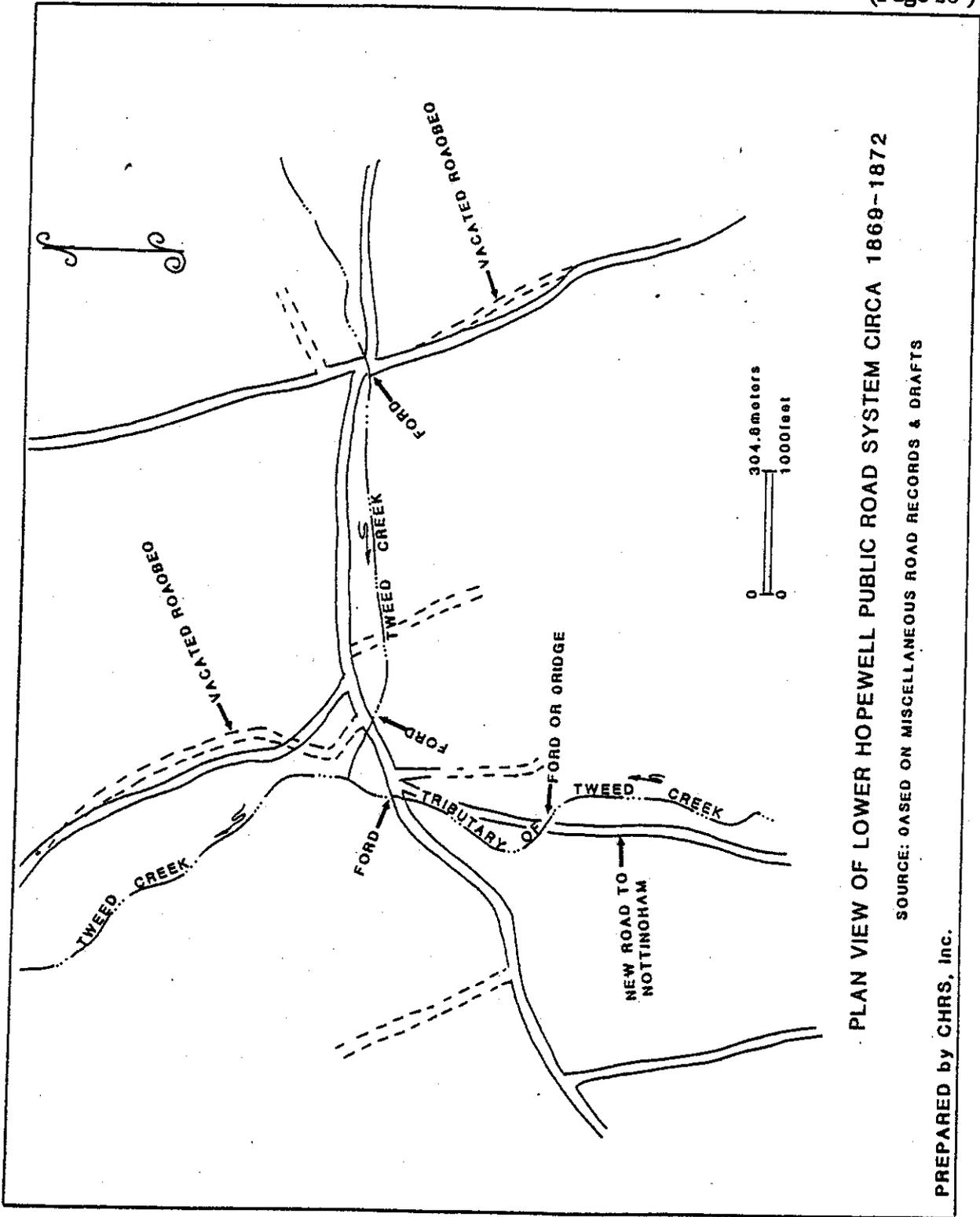
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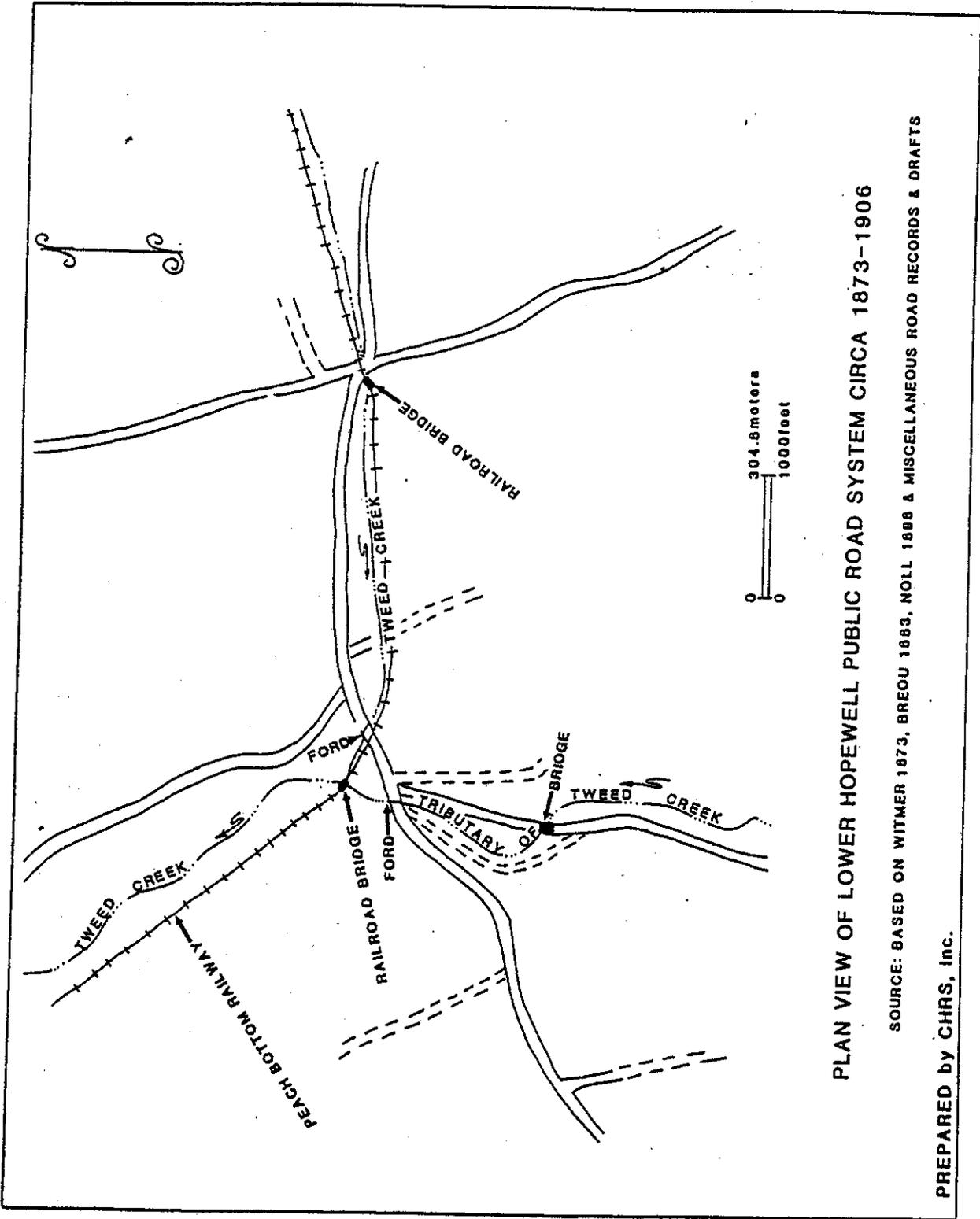
SOURCE: NOLL, 1896

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PREPARED BY CHRS, Inc.



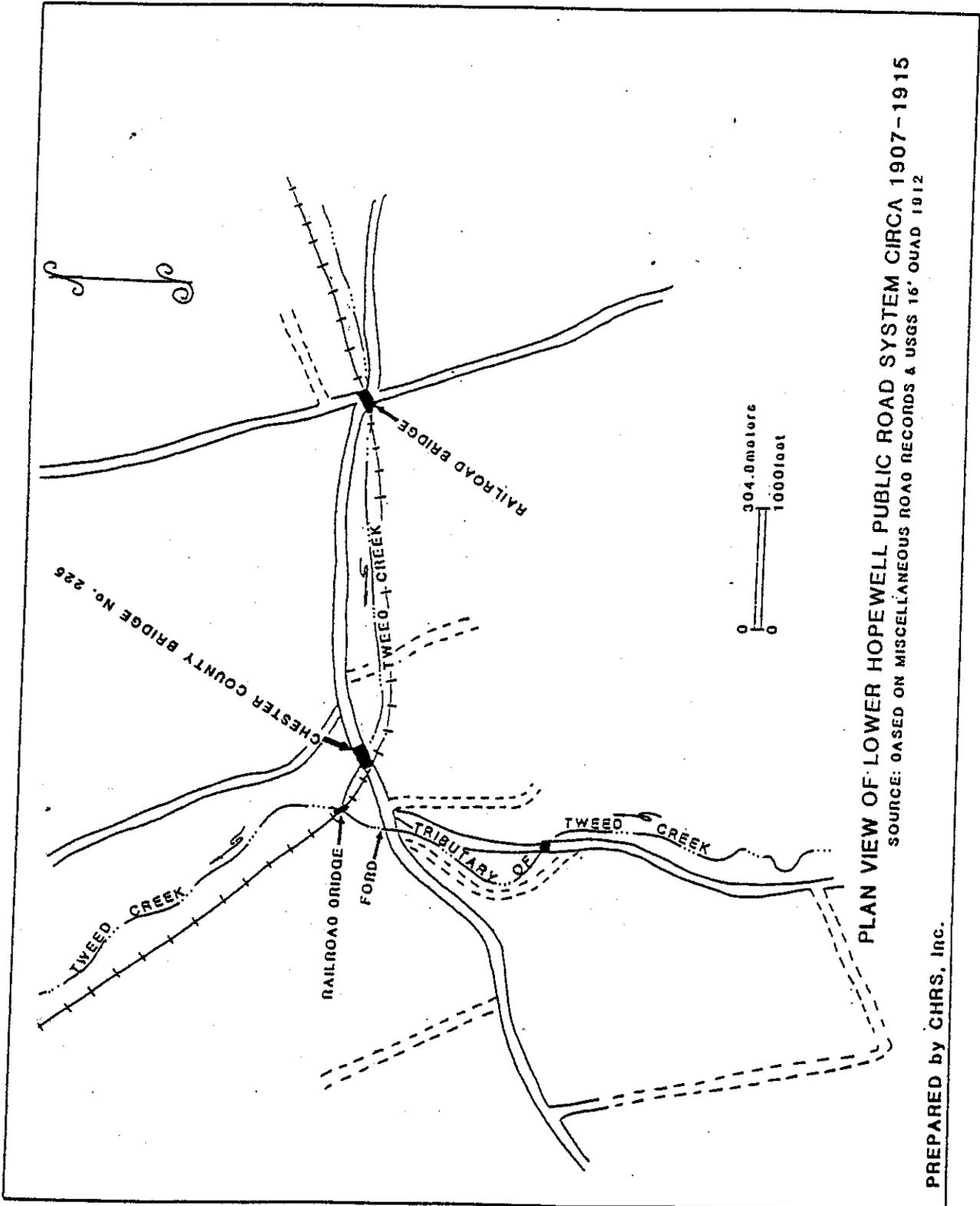




PLAN VIEW OF LOWER HOPEWELL PUBLIC ROAD SYSTEM CIRCA 1873-1906

SOURCE: BASED ON WITMER 1873, BREOU 1883, NOLL 1888 & MISCELLANEOUS ROAD RECORDS & DRAFTS

PREPARED by CHRS, Inc.



PLAN VIEW OF LOWER HOPEWELL PUBLIC ROAD SYSTEM CIRCA 1907-1915
SOURCE: BASED ON MISCELLANEOUS ROAD RECORDS & USGS 16' QUAD 1912

PREPARED BY CHRS, INC.

